Physics - ICS Part 1 Physics Chapter 11 Short Questions Test

Q1. Define pressure of a gas.

Ans 1: The pressure exerted by a gas is the momentum transferred to the walls of the container per sec unit area due to continuous collision of molecules of gas.

Q2. What happens to the temperature of the room, when an air conditioner in left running on a table in the middle of a room ?

Ans 1: No change will be observed because the heat is absorbed and expelled in the same room.Hence there will be no effect on the room's temperature.

Q3. We talk about molar specific heat of gases but not talk about molar specific heat of solids and liquids. Why?

Ans 1: In case of solids and liquids the change in volume and hence work done against external pressure during a change of temperature is negligibly small.But same can not be said about gases which suffer variation in pressure as well as in volume with the rise in temperature.

Q4. Define reversible and irreversible process.Give one example of each.

Ans 1: Reversible Process: A Process which can be retracted in exactly reverse order without producing any change in the surroundings is called reversible process.For example, melting of ice into water and freezing of water into ice.
Irreversible Processes: A process which cannot be retracted in the backward direction by reversing the controlling factors is called an irreversible process.
For example, work done against friction.

Q5. What would be the heat lost if internal energy decreased by 10j and 20j of work is done on the system simultaneously

Ans 1:

Q6. What is the similarity and difference between internal energy and gravitational P.E?

Ans 1: Internal energy is similar to the gravitational P.E.So like the potential energy, it is the change in internal energy and not its absolute value, which is important.
Internal energy depends upon temperature of the system while gravitational P.E depends on position of the particle.

Q7. What do you mean by triple point of water?

Ans 1: The triple point of water is a state in which ice, water and vapour coexists in equilibrium and it occurs uniquely at one

particular pressure and temperature.Its value is 273.16 k.

Q8. Specific heat of a gas at constant pressure is greater than specific heat at constant volume why?

Ans 1: At constant volume, no work is done and the entire heat is utilized in raising the internal energy of the system.But under constant pressure, heat is not only required to raise the internal energy but also to do work against constant pressure.
Hence specific heat of a gas at constant pressure is greater than specific heat at constant volume.

Q9. State Carnot's theorem.

Ans 1: It states that no heat engine can be more efficient than a carnot engine operating between the same two temperatures.

Q10. What is an Adiabatic process? Also give its two examples.

Ans 1: Adiabatic Process:An adiabatic process is the process in which no heat is transferred to or from the system but the temperature of the system changes.
Examples: Passage of sound through the air, rapid escape of air from a burst tyre and cloud formation etc.
